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The Study of the Effects of Yoga Exercises on Addicts' Depression and Anxiety in Rehabilitation Period

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Abstract

The purpose of the present study is to investigate the effects of yoga exercises on addicts' depression and anxiety in rehabilitation period. The method of this investigation is Semi-experimental. All new cases were evaluated on admission using a personal information questionnaire as well as Beck-2 and Spielberg test. Participants were randomly assigned into two groups; an experimental and a control group. The experimental group (n=12) participated in training protocol that were held for 3 sessions per week and 60 minutes each session for 5 weeks. The control group (n=12) was assigned to a waiting list and did not receive yoga. Both groups were evaluated again after a five-week study period. Descriptive statistics and t-test at $\alpha = 0.05$ were used to analyze the data. The present study indicated that yoga exercises made significant differences in depression and state anxiety level of the experimental group in comparison with the control group ($p=0.048$), ($p=0.023$), and insignificant difference in trait anxiety level of the experimental group in comparison with the control group ($p=0.835$).

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Keywords: Yoga; Depression; State-Trait Anxiety; Addiction

1. Introduction

From the time immemorial, mankind's use of drugs was prevalent for pain relief and according to historical documents, over use of drugs was also existed (2). Addiction is a complex problem that can affect all realms of life and calls for a holistic response (4). Nowadays, narcotics use have the perilous and quite complex shape (20). Narcotic drugs and their numeral and unexplainable damages can be considered as one of the human's destructive diseases and great mankind's social pests; there was no harmful and disastrous substance for human like narcotic drugs throughout the history (2).

Narcotic addiction is one of the fundamental problems of human being's life; it is for nearly a century that mankind has decided to solve this problem (15). Addiction is considered as one of the main four critics and a global issue too; its side effects are as follows: physical, mental, family, cultural, social and economical disorders (8). Not only addiction is a personal-social problem but also it is a family problem; it has negative effects on mental health of the addict and his/her family (16).

The combination of addiction with depression as well as anxiety makes treatment and recovery harder. In fact, there is a significant relationship between mental disorders such as depression and addiction among addicted

families (19). Sports and physical education are of the main tools which lead to recovery and treatment though such tools have been neglected (1).

To this end, the aim of yoga, as an eastern life philosophy, is the mind and body balance; it has a positive effect on quality of life and feeling of whole body health; it also leads to more compatibility of mental, immunity, and cognitive systems; beside this, it leads to modification of automatic nervous system and more body stability and resistance (13). Since, addiction prevention should be logical as well as combinational, including skills, decision making, family interference and etc.; among which physical exercises and yoga can be of the useful components of the treatment programs and addiction prevention (12).

2. Review of the Related Literature

Several improvements about yoga exercises were noted by the researchers and subjects. These included: Reduction of depression and state-trait anxiety, prevention and treatment of addiction, better sleep quality, stress tolerance, mental focus, health promotion and decrease of neurological disruptions. A review of the literature revealed that most of the studies which have reported significant reduction in depression, state-trait anxiety and other neurological signs after physical exercises and yoga, have been done on non-addicts. Ghaseminejad and Noorbakhsh in their research on over 40 years old women, stated yoga has profitable effect on depression and reduce it(6).

Chen et al. reported after 6 months yoga exercises, sleep quality and depression of old people improves (4). Ghaseminejad Dehkordi reported that group exercises are more effective than individual exercises in depression reduction (5). Pilkington et al. and Uebelaker et al. reported yoga has profitable effect on depression and reduce it (14), (23). Vedamurtakar studied the effects of Sudarshan kriya yoga on alcoholic persons and concluded that yoga exercises cause depression reduction in people (24). But Javanbakht reported no significant reduction in depression that it is probably because of the gender of subjects and their special situations (9). Shapiro et al. In the study on 27 men and 10 women with A-polar depression declared that during yoga exercises, depression, anxiety and neurological signs decrease significantly (17).

Streeter et al. reported yoga exercise is reduction factor for disorders with lower levels of GABA like depression and anxiety (21). Telles et al. in a research on 300 women and men concluded that both yoga exercises and theoretical aspects of yoga decrease state anxiety; but yoga exercises reduces state anxiety more than theoretical aspects of yoga (22). Smith et al. reported that yoga and relaxation reduce anxiety and stress, but yoga is more effective (18). Gupta et al. concluded that in a short time program for pressure control, state and trait anxiety decrease significantly in 10 days (7). Javanbakht reported yoga exercises decrease state and trait anxiety significantly (9). Other studies reported that yoga, meditation and relaxation are complementary segments in addiction therapy. Khalsa et al. reported yoga is an effective method for addiction therapy (10). Winkelman reported that complementary therapy enhances recovery by relaxation, increase of theta wave and coordination of brain wave (25). Nespor reported that yoga is effective in prevention and remedy of addictive disease as a complementary treatment (12). Carlson et al. reported meditation is used successfully for stress reduction between people who have clinical problems and is a complementary therapy for addiction (3). Marlat reported that Buddhist philosophy including compassion, meditation and clinical interferences, has direct implications for addictive behavior remedy (11). In the present study, we use physical and respiratory exercises in addition to meditation and relaxation to see whether yoga exercises have positive effects on depression and anxiety of clients in rehabilitation period and also yoga can be one of the complementary therapeutic methods for addiction therapy.

3. Materials and Methods

This research is a semi-experimental investigation and statistical society consists of 50 male clients in therapeutic community center of Gorgan city. At first, clients did personal information questionnaire, Beck-2 depression and Spielberger state-trait anxiety inventory that their reliability has been confirmed, and persons whose age and giving up period were significantly different and had no depression and anxiety, did not participate in this research and so, statistical sample consisted of 24 persons.

Then, they were randomly divided in two groups with 12 clients in each group and if needed they were displaced between groups in order to have two homogeneous groups in age, giving up period, depression and state-trait anxiety. According to this, we can say that necessary solutions to control the disruptive factors that may

decrease research validity has been monitored. After that, selected yoga exercises were performed for 3 sessions per week and 60 minutes per session during 5 weeks, that in primary sessions it included breathing exercises, meditation and relaxation for different physical conditions of clients, then physical exercises were also added.

After 5 weeks and in last session all clients whether in class or not, took those depression and anxiety tests again. According to the goals of investigation the best way to collect needful data was a questionnaire that determines addicts' depression and state-trait anxiety in rehabilitation period. Due to this reason; it has applied Beck-2 depression and Spielberger state-trait anxiety inventory and personal information questionnaire.

Personal information questionnaire: there are 18 questions about personal specifications, records, diseases and drugs of addicts that have been made based on these investigation goals by investigator.

Beck-2 depression inventory: This questionnaire is revised form of Beck, which for covering wide range of points, in 1996 the basic revision was done on it [3]. In this questionnaire, scores range is between 0 to 63 and the scores are usually achieved between 12 to 40; but only in severe depression levels, scores acquisition of 40 to 50 is possible. Validity of the inventory in this investigation from Cronbach's alpha manner is 0.90.

Spielberger State-Trait anxiety inventory: It includes 2 short tests(20 matters) that are easy to understand, self measured and sensitive to temporal anxiety (state) and also characteristic Specifications that may creates experience background of chronic anxiety (Trait) in persons[30]. Validity of state and trait anxiety inventory in this investigation from Cronbach's alpha manner is respectively 0.88 and 0.86. In this study at first stage, questionnaires were distributed between clients and if needed, they were guided and helped by investigator and if there were some mistakes in their answers they were asked to correct themselves and, unintelligible instances were explained to them. After collecting questionnaires, clients divided in two equal groups based on age, giving up period, depression and state - trait anxiety level. Then statistical sample was specified. After 15 sessions of yoga exercises including physical, breathing, meditation and relaxation exercises in 60 minutes per session, those questionnaires were distributed between clients again and asked them to do questionnaires with attention and patience.

At first part of this research descriptive statistic was used and when normal distribution of data was ensured by Kolmogorofsmirnof, in statistical analysis t-tests were utilized. According to ethnic observations writing personal information like first name and last name in questionnaires were asked, but all information are protected by investigator.

4. Results

The mean age in the experimental group was $(21-34)26 \pm 4.068$ and in the control group it was $(23-31)26.75 \pm 2.734$, with no significant difference between 2 groups($p=0.909$). In both experimental and control groups, giving up period of 33.3 percent of clients was one week, in 33.3 percent of clients it was one month and in 33.3 percent of them it was two months. Depression level in experimental group was reported 26.75 ± 8.476 before yoga and decreased to 18.92 ± 9.977 after yoga that showed significant difference ($p=0.022$). State anxiety in experimental group was reported 47.25 ± 13.465 before yoga and decreased to 36.08 ± 10.698 after yoga that showed significant difference (0.042). Trait anxiety in experimental group was reported 43.25 ± 8.740 before yoga and decreased to 42.67 ± 8.083 after yoga that showed insignificant difference (0.835). Yoga exercises caused significant difference in depression level of experimental group in comparison with the control group in rehabilitation period ($p=0.048$). Yoga exercises caused significant difference in state anxiety level of experimental group in comparison with the control group in rehabilitation period ($p=0.023$). Yoga exercises caused insignificant difference in trait anxiety level of experimental group in comparison with the control group in rehabilitation period ($p=0.835$).

5. Conclusion

Several improvements about yoga exercises were noted by the researchers and subjects. Most of the studies have

reported significant reduction in depression, state-trait anxiety and other neurological signs after physical exercises and yoga. Ghaseminejad and Norbakhsh, Chen et al., Ghaseminejad Dehkordi, Pilkington, Uebelaker and Vadamortakar, Streeter, Telles, Smith and Gupta reported significant reduction in depression, state and trait anxiety and other neurological disorders after yoga exercises and Javanbakht reported significant reduction in state and trait anxiety but insignificant reduction in depression, that this inequality with the present research and other investigations is probably because of the gender of subjects and their special situations. The present study monitored a group of clients with an age range of (21-34) to explore if their Depression and State-Trait Anxiety were affected by yoga exercises.

In this study it was found that Yoga has a positive and significant effect both on depression and state anxiety level of addicts in rehabilitation period ($p=0.048$), ($p=0.023$). The results are equal with other investigations and this equality is probably because of yoga positive effects on different parts of body, specially nervous and respiratory system and different kinds of glands and hormones that cause to release anti-depression hormones such as Serotonine, Dopamine and Norepinephrine and these hormones are anti-anxiety to some extent and also yoga has an effect on Adrenaline and Epinephrine hormones and decreases their secretions and therefore yoga decrease depression and state anxiety. But the results in this investigation suggested that yoga has insignificant effect on addict's trait anxiety in rehabilitation period ($p=0.935$); and this is not equal with other studies and it is probably because that trait anxiety in addicts is too severe so that yoga exercises can not affect it.

In other studies Khalsa, Winkelman, Nespor, Carlson and Marlatt reported, yoga, meditation and relaxation as complementary segments in addiction therapy that the findings are equal with this investigation results. Therefore, it can be suggested that according to this investigation and other researches, different kinds of yoga exercises can be considered as a complementary therapy or an alternative method alongside other methods in treatment of clients' depression and state anxiety.

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